

REMARKS

A first non-final Office Action on the merits was mailed December 13, 2005. The present response is being filed timely.

Claim 1-6 are pending. Claims 2 and 4 are deemed withdrawn, to which Applicant reserves the right to file a divisional or continuation application. Claims 1, 3, and 5 are pending.

By the foregoing, all independent claims are amended and the rejections are traversed in view of the amendments. No new matter has been added and the amendments are supported by the specification as specifically noted below and as a whole.

Rejections under 35 U.S.C. §112, second paragraph

Claim 3 stands rejected as being indefinite for claiming "type". The claim has been amended and now recites the retainer is of a crown-shape. Accordingly, the Examiner is respectfully requested to withdraw the rejection.

Rejection of Independent Claim 1

Claim 1 stands rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,068,408 to Mutoh et al. (Mutoh). The presently claimed invention is a retainer for a ball bearing having a plurality of pockets arranged in a circumferential direction to rollably hold a plurality of balls along a pitch circle.

Claim 1 now recites that each of the pockets has an inner peripheral surface
which is formed in one of a cylindrical surface and a concave surface having an inner diameter which increases from the opening of the pockets on the outer side toward the opening of the pockets on the inner side, the inner peripheral surface.

Mutoh does not teach, disclose, or suggest this claimed limitation.

As disclosed in Applicant's Figs. 12 through 27, the respective pockets have an inner peripheral surface that is formed in a cylindrical surface or in a concave surface having an inner diameter that in turn increases from the opening of the pockets on the outer side toward the opening of the pockets on the inner side. In contrast, the respective pockets of Mutoh have an inner peripheral surface which is formed in a convex surface.

Advantageously in the presently claimed invention, the grease adhered to the inner peripheral surface of the retainer easily enters into the pocket and stays here appropriately, such that excess leakage of grease to the outside of the pockets is suppressed and the lubricated-condition in the pockets is maintained well. On the other hand, in the structure taught by Mutoh the grease can easily enter the pockets, however, the effect that the relation between detention and discharge of grease is appropriately kept and the lubricated-condition in the pockets is maintained, cannot be fully obtained. As described above, the present invention is quite different from the citation in structure, and therefore, the present invention is not obvious. Accordingly, the Examiner is respectfully requested to withdraw the rejection of independent claim 1.

Rejection of Dependent Claim 3

Claim 3 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Mutoh. Claim 3 is dependent on claim 1 and, therefore, claim 3 is allowable for the same reason given for claim 1.

Notwithstanding the above, claim 3 recites that the inner peripheral surface of the respective pockets is formed

in a partial conical concave shape that is inclined such that the diameter of the inner peripheral surface closer to the tip ends of the resilient pieces is larger than the diameter of the inner peripheral surface closer to the other side in the axial direction of the annular main portion.

Figs. 21 through 24 and on pages 34 to 35 in the present specification advantageously describe claim 3. The feature and effect of this invention is not suggested nor taught by the retainer of

Mutoh that has a convex surface. Accordingly, the Examiner is respectfully requested to withdraw the rejection of dependent claim 3

Rejection of Independent Claim 5 in view of Uchida

Claim 5 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,037,213 to Uchida et al. (Uchida).

The presently claimed invention is a rolling bearing comprising an inner race having an outer peripheral surface and an inner peripheral edge defined by an end edge of an elastic member of the seal plate. Claim 5 now recites that *dust seal lip located on the outside of the inner peripheral edge and facing the outer peripheral surface of the inner race.*

In the present invention, the seal plate has a dust seal lip located on the outside of the inner peripheral edge and facing the outer peripheral surface of the inner race. In other words, as depicted in Figs. 37 through 40, a labyrinth seal is formed on the axial outer side of the inner peripheral edge (seal lip 111) between the dust seal lip and the outer peripheral surface of the inner ring. As described advantageously on page 41 of the present specification, the dust seal lip suppresses the amount of foreign matter that is put into the seal groove 113.

In contrast, Uchida discloses a bearing similar to that described relative to the prior art of Fig. 10. Therein, Uchida teaches in Fig. 4 a seal lip on the inner peripheral edge of the seal plate. The seal lip is forked such that it crosses over the seal groove of the inner ring and comes in contact all the way around the circumference at two separate locations in the axial direction on the outer peripheral surface on the ends of the inner race. Please see page 14 of the specification of the present application. Therefore, the bearing taught by Uchida has a problem that it is difficult to obtain stable seal performance. Please see page 17 of the specification.

The present invention aims, in particular, to improve the bearing in which the labyrinth seal is formed on the outside of the inner peripheral edge of the seal plate, instead of a contact seal. Uchida fails to teach, disclose, or suggest a structure that anticipates the now claimed structure.

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Accordingly, the Examiner is respectfully requested to withdraw the rejection of claim 5 with respect to Uchida

Rejection of Independent Claim 5 in view of Figs. 7-8

Claim 5 stand rejected under 35 U.S.C. §102(b) as being anticipated by prior art Figs. 7-8. As best understood by Applicant, angles α and β cited by the Examiner were directly measured using Fig. 8. Applicant respectfully contends that the angles fail to measure to the angles asserted. Furthermore, if indeed such angles measure to such degrees these were the result of printing and preparation of the drawings for the present application. As should of course be understood, the angles are drawn at an exaggerated scale to make the printing of such figures possible.

The Examiner is kindly referred to Table 1 on page 45 of the present specification, in the conventional example, which is depicted in Fig. 7 and 8, the angle α is about 9.5° and the angle β is about 24.5°. Any additional evidences showing the fact that the existence of bearing in which the angle α is 10° or more, are not offered nor admitted by Applicants.

In fact, the MPEP foresaw exactly this problem. Therein, MPEP 2125 directs that “[when] the reference does not disclose that the drawings are to scale and is silent as to dimensions, arguments based on measurement of the drawing features are of little value.”

The MPEP further refers to case law supporting this view. The MPEP directs that “*Hockerson-Halberstadt, Inc. v. Avia Group Int'l*, 222 F.3d 951, 956, 55 USPQ2d 1487, 1491 (Fed. Cir. 2000) (The disclosure gave no indication that the drawings were drawn to scale. “[I]t is well established that patent drawings do not define the precise proportions of the elements and may not be relied on to show particular sizes if the specification is completely silent on the issue.”). “

Accordingly, the Examiner is respectfully requested to withdraw the rejection with respect to Figs. 7 and 8.

Rejection of Dependent Claim 6

Claim 6 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Uchida. Claim 6 is dependent on claim 5 and, therefore, claim 6 is allowable for the same reasons given for claim 5.

All dependent claims are allowable for at least the same reasons as the independent claim from which they depend.

In view of the remarks set forth above, this application is in condition for examination and ready passage to allowance, which is respectfully requested. However, if for any reason the Examiner should consider this application not to be in condition for examination or allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper, including any extension fees, may be charged to Deposit Account No. 50-1290.

Respectfully submitted,



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